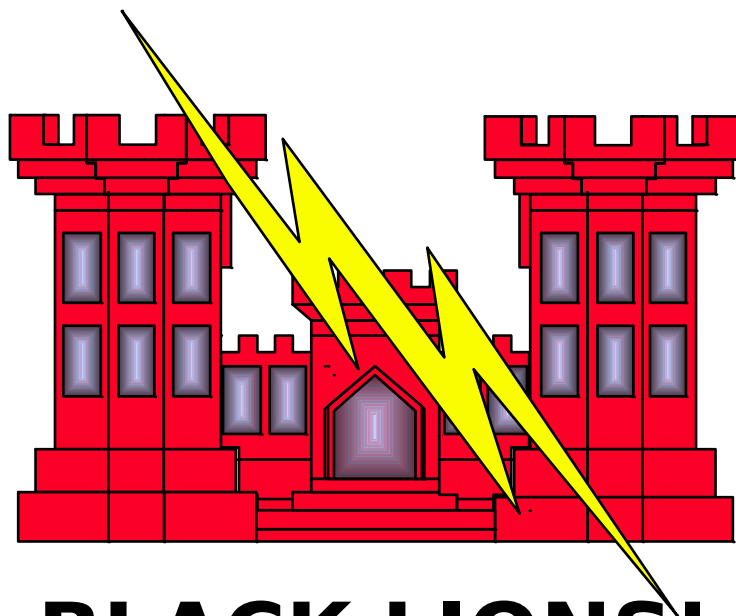
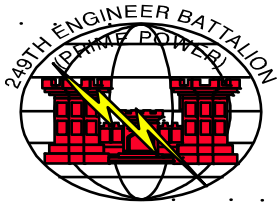


249th Engineer Battalion (Prime Power)



BLACK LIONS!

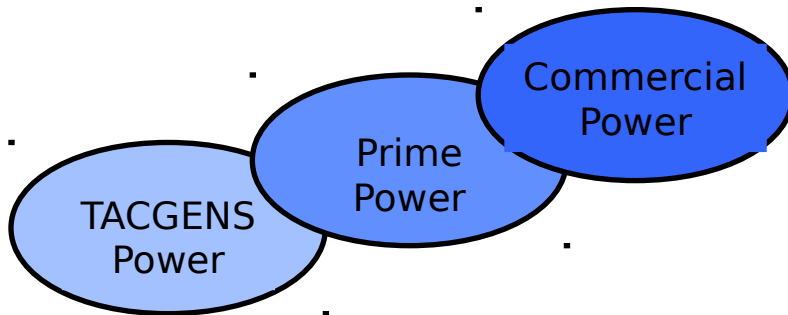
<http://249en.belvoir.army.mil>

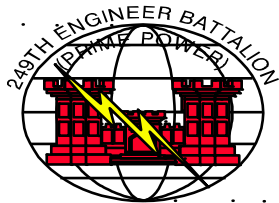


Prime Power Mission



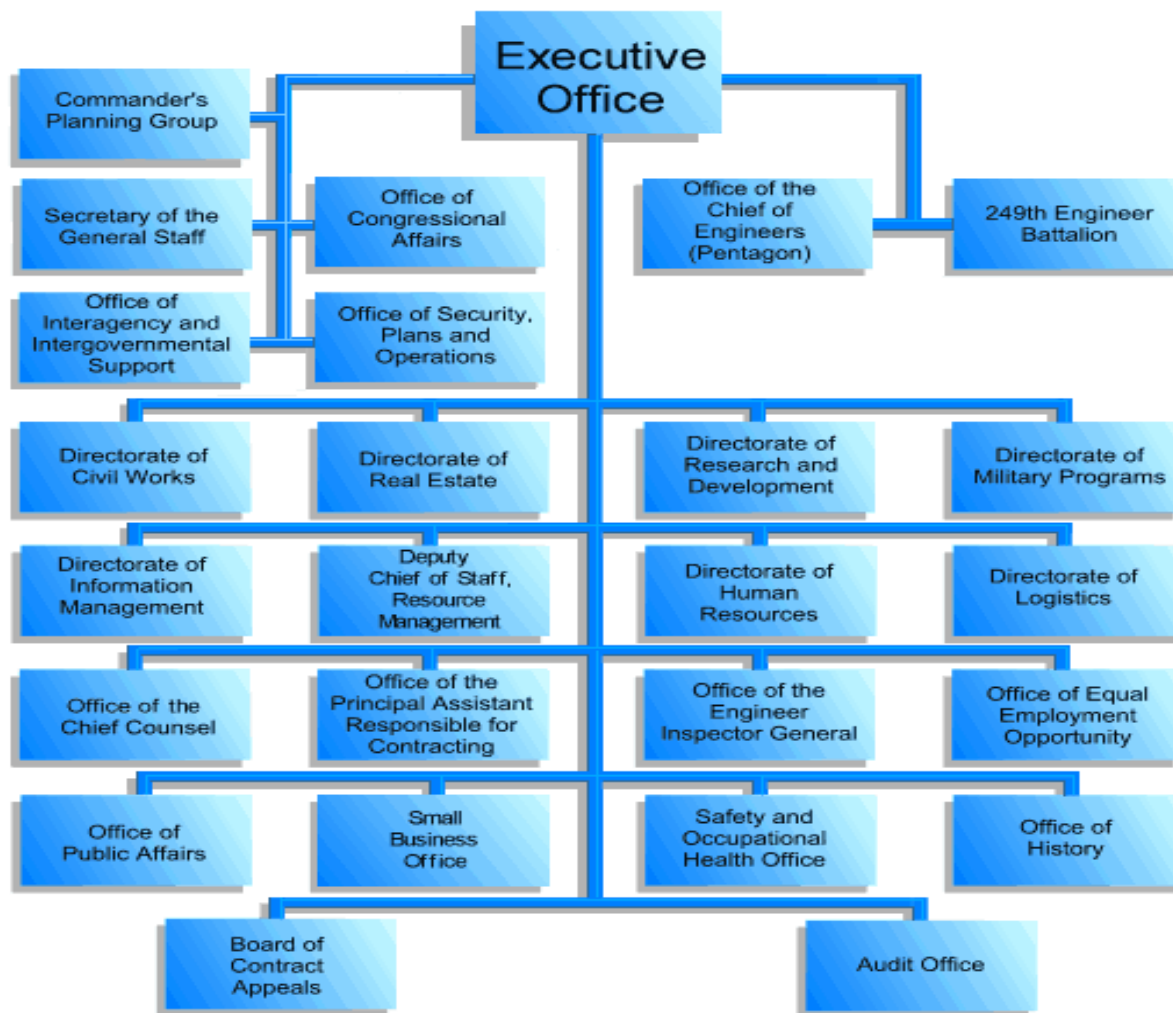
- Deploy worldwide to generate and distribute prime electrical power in support of the **full spectrum of Military Operations**.
- Provide **advice** and **technical assistance** in all aspects of electrical power and distribution systems.
 - Maintain Army prime power generation and distribution reserve stocks.
 - In peacetime, train DoD personnel in the operation, maintenance, and management of prime power generator sets, power plants, and associated distribution systems equipment.





USACE Org Chart

35,000 CIVILIANS & 650 MILITARY



Chief of Engineers
LTG Flowers

Deputy CG
MG Griffin

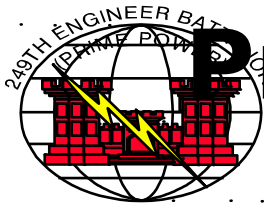
Dir. of Civil Works
MG Strock

Dir. of Mil Programs
MG Johnson

249th Engr Bn Cdr
LTC Ryscavage

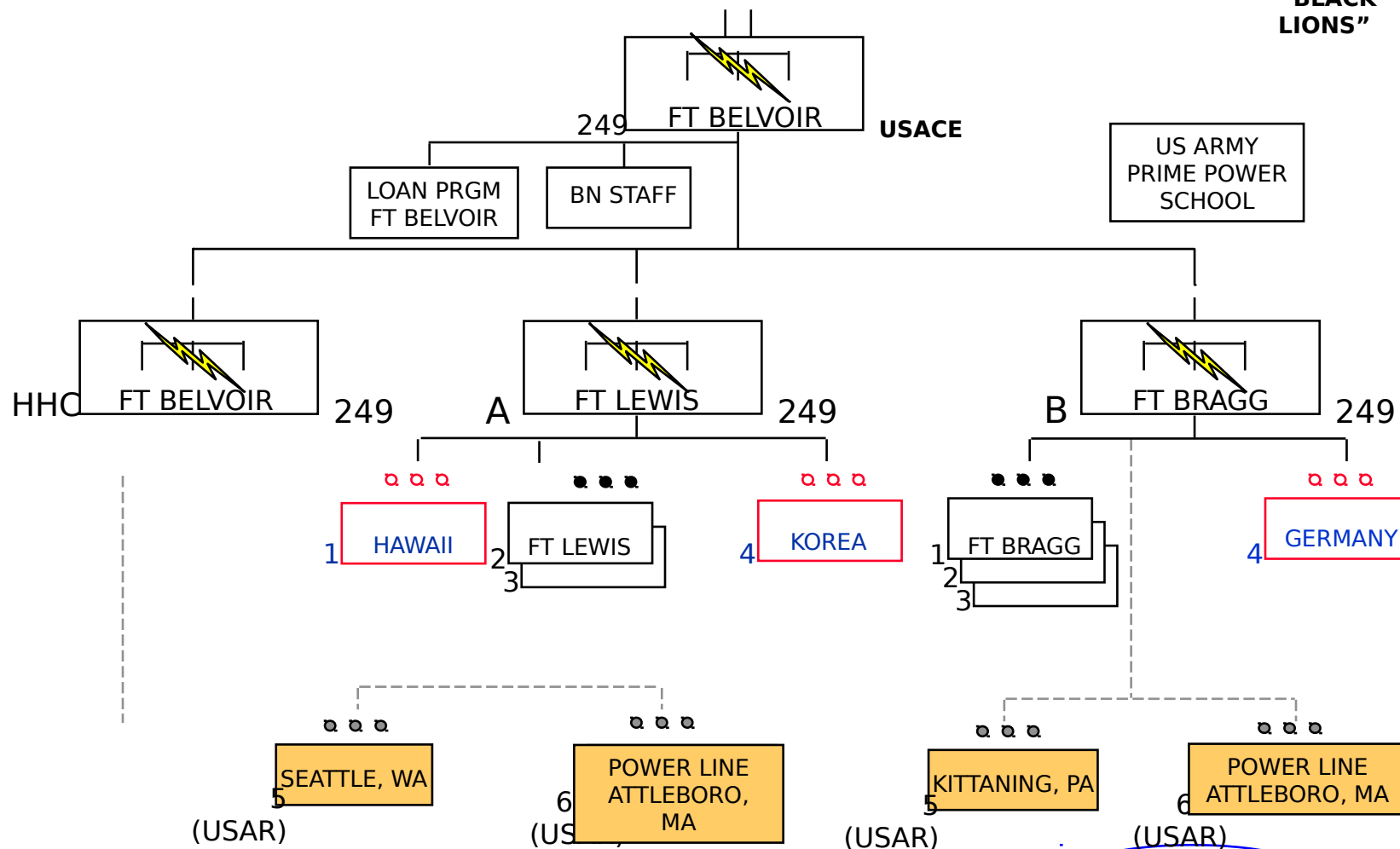
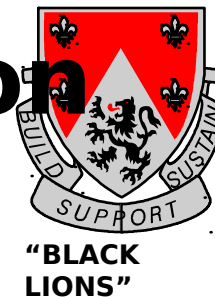
One Corps Serving the Army and the Nation

PRIME POWER



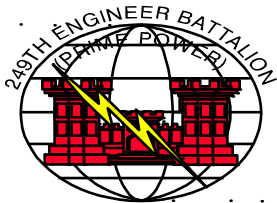
Prime Power Organization

01 October 2003



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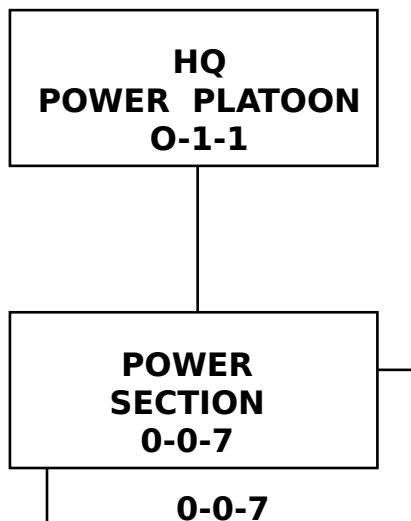
Prime Power Platoon

Personnel and Equipment



Personnel

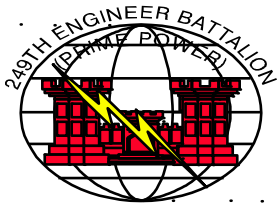
- 1 - CW3 (210A)
- 1 - MSG (51Z)
- 2 - SFC (52E)
- 6 - SSG (52E)*
- 6 - SGT (52E)*



Equipment

- 4 - 750 kW Generators
- 1 - 500 kW Generator (Lv)
- 1 - Central Control Van
- 1 - 500 KVA Substation
- 1 - M998
- 1 - 2-1/2 T LMTV w/ trlr
- 1 - Contact Truck
- 1 - 10K fork lift

- *ASI distribution:**
- 4 ea S2 - Mechanic
 - 6 ea S3 - Electrician
 - 2 ea E5 - Instrumentation Technician



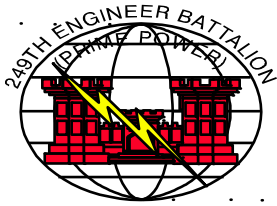
Prime Power Platoon Capabilities



- Assess and repair commercial power production systems
- Assess and repair critical facilities
- Install and operate power plants and distribution systems
- Maintain power systems
- Maintain Substations
- Test Protective Relays
- Test & Maintain Circuit Breakers
- Power Factor Correction
- Splice Power Cables



- Infrared Surveys
- Test Transformers
- Test Insulation
- Maintain Diesel Engines

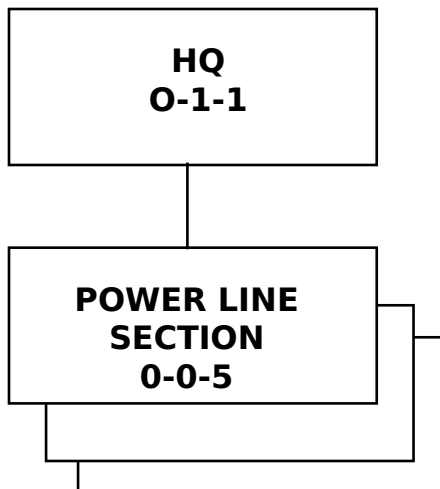


Power Line Platoon Personnel and Equipment



Personnel

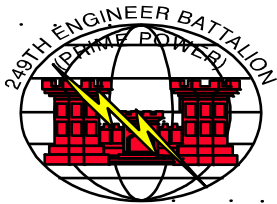
- 1 - CW2 (210A)
- 1 - SFC (52G)
- 3 - SSG (52G)
- 3 - SGT (52G)
- 3 - SPC (52G)
- 6 - PFC (52G)



Equipment

- 3 - Pole Truck
- 1 - M998
- 3 - Shop Equipment

- Install aerial distribution systems
- Install underground distribution systems
- Assess and repair commercial power distribution systems
- Assess and repair critical facilities
- Splice power cables



Power Spectrum



1KW - 500KW

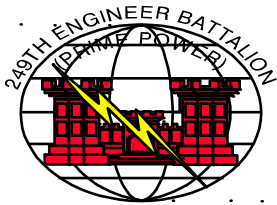
- TAC-GENS
- Unit Supported Maintenance/Operation
- MOS 52D support
- Low Voltage (<480V)
- Typically 30 days to 6 months

500KW - 4.5MW

- Prime Power
- 249th Maintenance/Operation
- MOS 21P support
- Medium Voltage (>480V - 4,160V)
- Typically 3 months to 6 months

**4.5MW -
Unlimited**

- Contractor Owned Gensets/Commercial Power
- Medium to High Voltage (>4,160V to >400KV)
- Typically 6 months



Prime Power Requirements



Transformers

- Long Lead Time Required
- Custom Built for Certain Voltages
- Expensive
- Included w/ Force Provider Prime Power Connection Kit

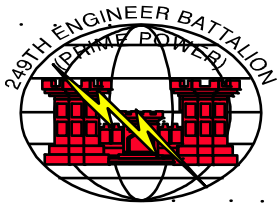
Material Handling Equipment

- Generators weigh from 36,000 lbs to 104,000
- Requires Truck Transportation

Fuel Requirements

35 to 60 Gallons Diesel Per Hour Per Genset

- Medium to High Voltage (>4,160V to >400KV)

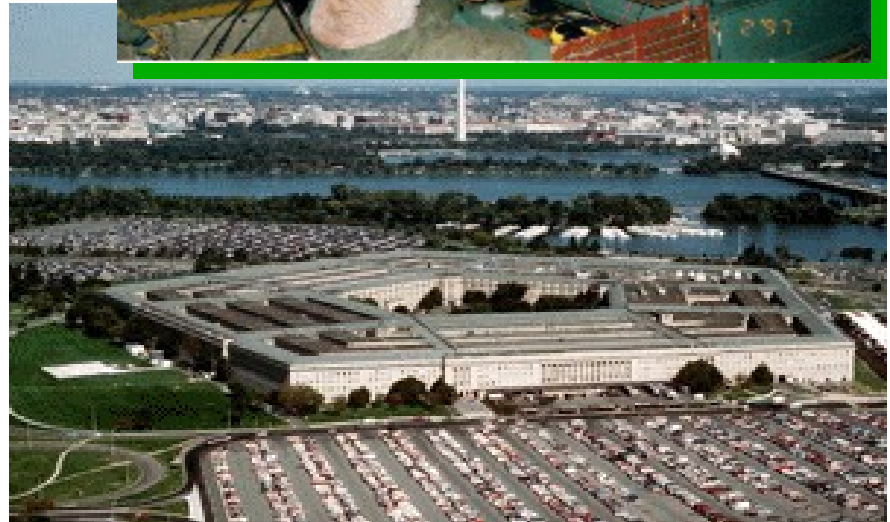


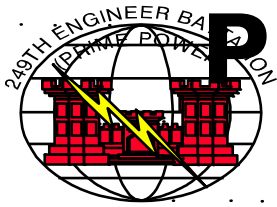
Installation Support



"BLACK LIONS"

- **Circuit Breaker and Relay Maintenance/Substation Maintenance**
- **Infra-Red Surveys**
- **One Line Diagram Updates**
- **Generator Maintenance/Installation**
- **Grounding Systems Testing**
- **Uninterruptible Power Systems Testing and Repair**
- **Electrical Distribution Systems Repairs/Installation**
- **Peak Shaving**
- **Cable Testing and Repair**
- **Load Surveys**



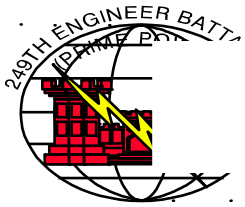


Prime Power War Reserve (Loan Program)



- Maintain an inventory of prime utility power generation and distribution equipment to support military contingency plans
- During peacetime, deploy assets to support high priority electrical power requirements for the Army, DOD, and other federal agencies
- 249th installs equipment, trains operators, performs annual inspection
- Operated on a reimbursable basis; Fees cover equipment overhaul, modifications, and upgrades





U.S. Army Prime Power School



49 Weeks + In/Out Processing & Holidays = 56 Weeks Total

16 Weeks

15 Weeks

18 Weeks

ACADEMICS PHASE

Focus on Theory :

- Math
- Applied Physical Concepts
- Mechanical and Electrical Systems Engineering

OPERATOR PHASE

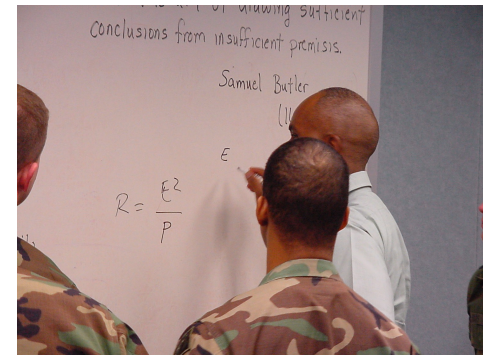
Focus on Hands-On Training:

- Power Plant Technologies
- Operation and Maintenance of 750 kW GenSets
- Operation and Maintenance of 4.5 MW Power Plants

SPECIALTY PHASE

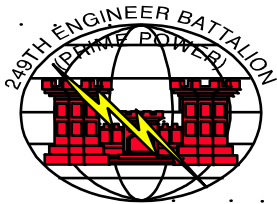
Focus on Specialties:

- Instrumentation
- Mechanical
- Electrical



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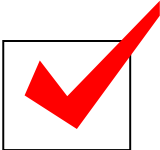
PRIME POWER



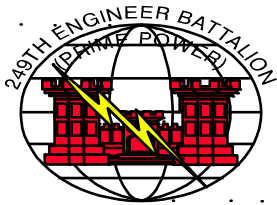
DoD Prime Power Capabilities



"BLACK
LIONS"

	ARMY	NAVY	AIR FORCE
MISSION		<ul style="list-style-type: none">- Disaster Relief Support- Power for ship repair & maintenance cycles, utility plant failures, scheduled overhauls	<ul style="list-style-type: none">- Basecamp support- Infrastructure support
SCHOOLS	49 Weeks at FT Belvoir	49 Weeks at FT Belvoir	16 Weeks at Shephard AFB
UNITS	249 th EN BN FT Belvoir	MUSE (Mobile Utilities Support Equipment) Department Port Hueneme	CEMIRT 49 th Materiel Maint. Group Holloman AFB Tyndall AFB
	175 Soldiers	27 Sailors (SEABEEs)	1740 Airmen

PRIME POWER



Black Lion Top Five Priorities



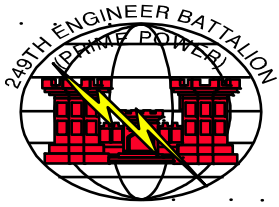
Support the War Fighter

Field DPGDS

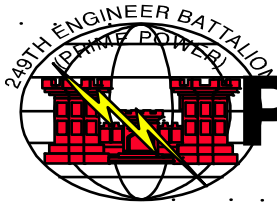
Support Disaster Relief

Clean up the Battlefield

**Focus on Homestation
Operations**



Backup Slides



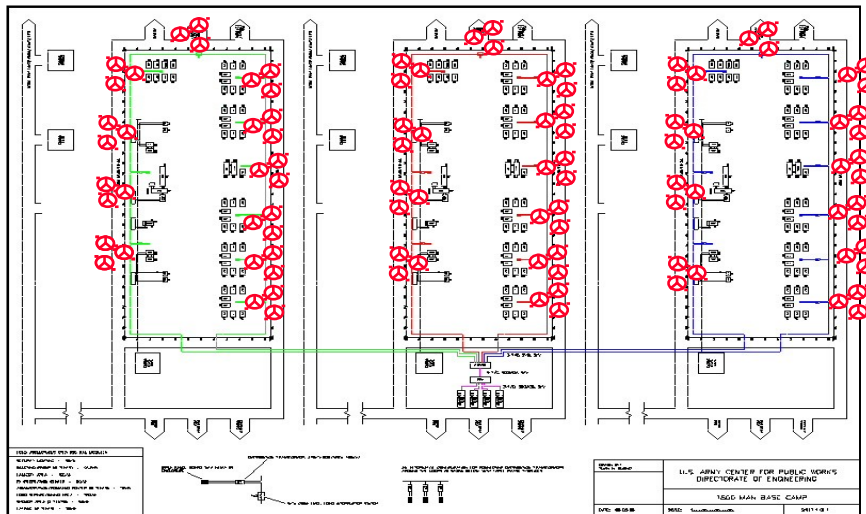
Prime Power vs TACGENs



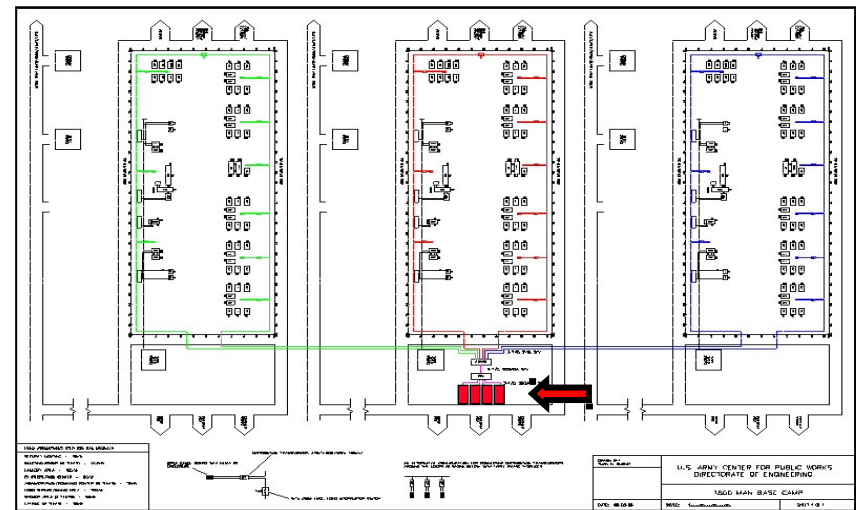
"BLACK LIONS"

- Increased power reliability
- Less cost per kilowatt hour (kwh)
- Centralized noise signature

TACGENs

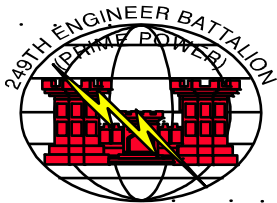


Prime Power



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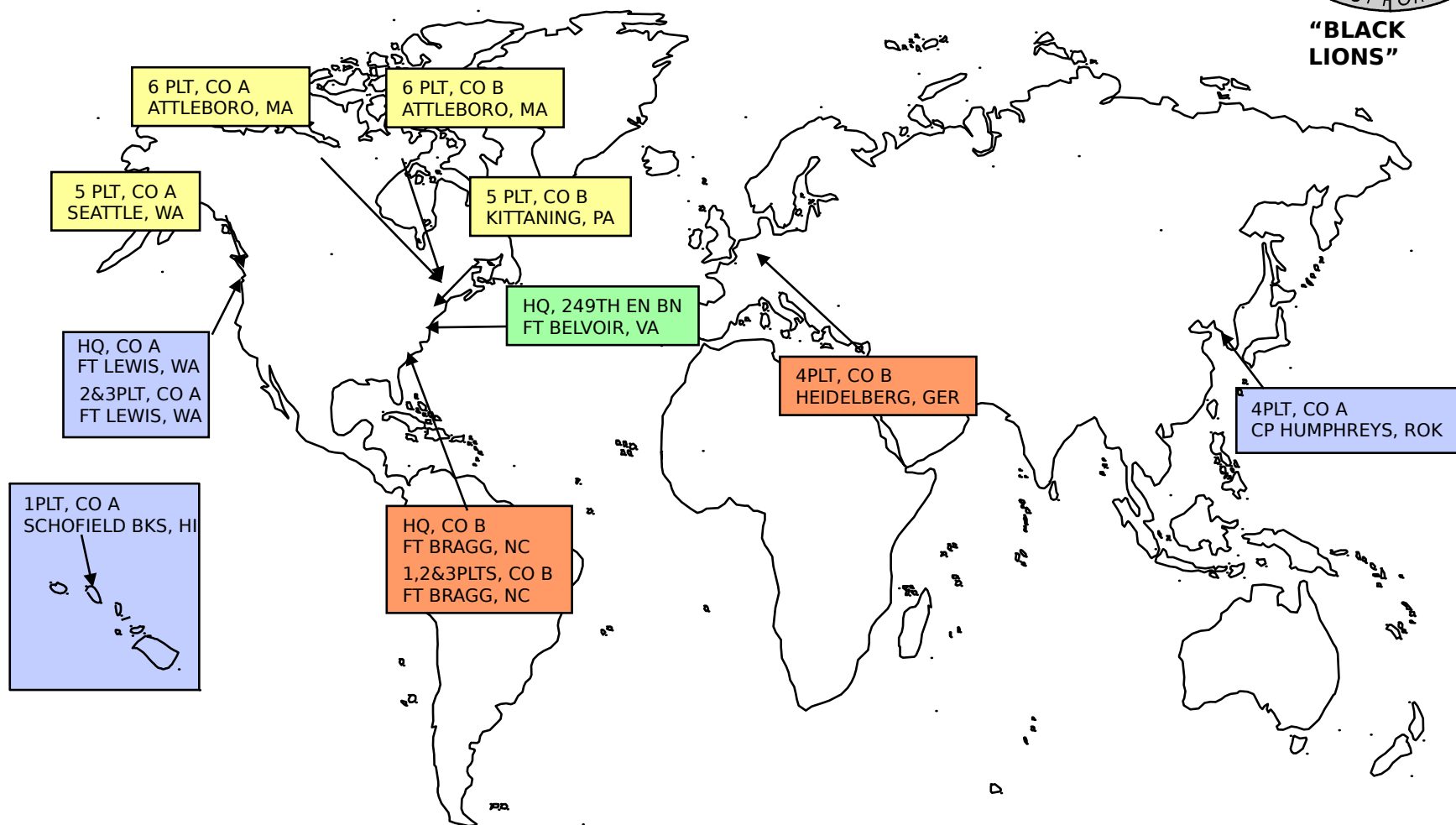
PRIME POWER



Unit Locations

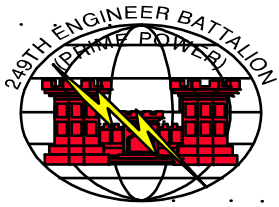


**"BLACK
LIONS"**



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Typical Plant Configuration

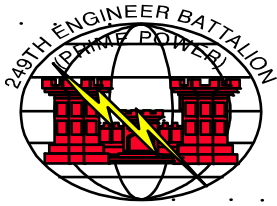


**"BLACK
LIONS"**



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Prime Power Missions (1994-2003)



Warfighting

Iraqi Freedom
Enduring Freedom
Uzbekistan
Kabul, Bagram,
Kandahar
Kyrgyzstan
Kuwait, Qatar
OEF-Phillipines
Ulchi Focus Lens
Bright Star
Force Provider
Atlantic Resolve
Cobra Gold

Stability and Support

Ops

East Timor
Uphold Democracy
JTF Full Accounting
JTF Bravo
Provide Comfort
Restore Hope
Support Hope
Provide Promise
Joint Endeavor
Combined Endeavor
Joint Guard/Forge
Northern Watch

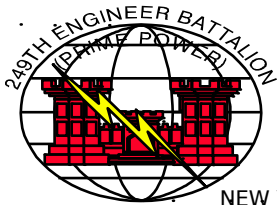
Disaster

Relief

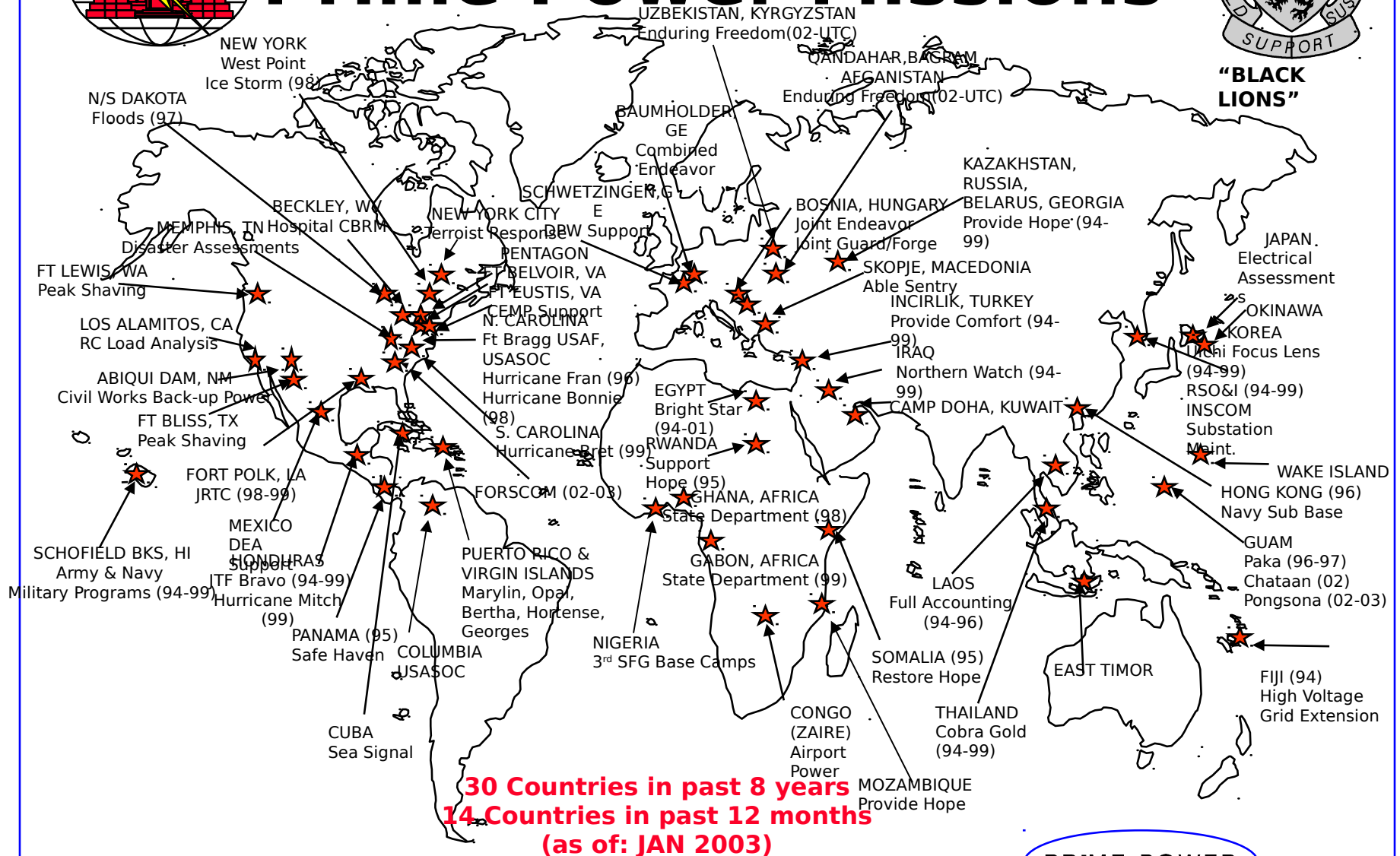
Walter Reed Power
Houston Floods
West Virginia Floods
Okla. & New Eng. Ice
Storms Dakota Floods

Hurricanes/Typhoons:

<u>2002:</u>	<u>1999:</u>	<u>1995:</u>
Chataan	Bonnie	Marilyn
Lili	Georges	<u>1990:</u>
Pongsona	Fran	Dennis
	<u>1997:</u>	Mitch
	PRIME POWER Paka	Floyd

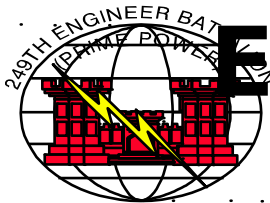


Prime Power Missions

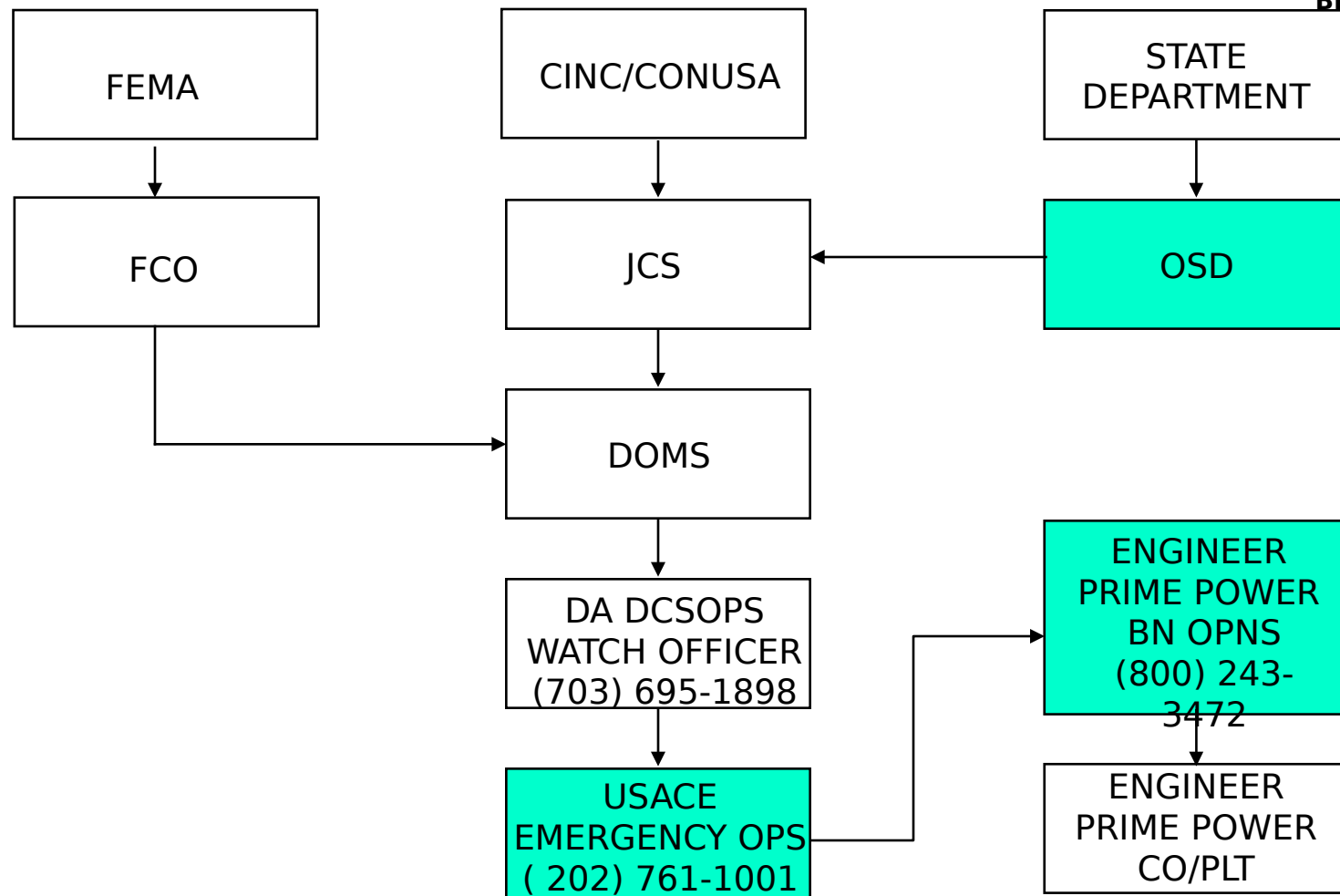
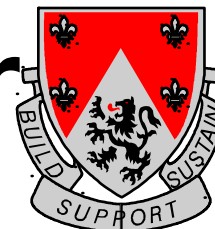


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Emergency Prime Power Request Channels



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